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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,700	06/29/2001	Yu-Lin Hwang	HWAN3008/EM/6949	4966
23364	7590	07/12/2005	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			CHANG, RICHARD	
			ART UNIT	PAPER NUMBER
			2663	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary

Application No.

09/893,700

Applicant(s)

HWANG, YU-LIN

Examiner

Richard Chang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's arguments and amendments with respect to claims 1-3 have been fully considered but are moot in view of the new ground(s) of rejection.

Claim 2 had been canceled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of US patent 5,892,912 ("Suzuki et al.") and US patent 6,829,250 ("Voit et al.").

Regarding Claim 1, The admitted prior art teaches a method for servicing subscriber ends on an asymmetrical digital subscriber line (ADSL) transmission unit at the customer premises end (ATU-R) of said ADSL (See Fig. 1) comprising:

coupling equipment of each subscriber end (20) to a plurality of subscriber input/output (I/O) ports in said ATU-R (42) (See Fig. 1, page 6, line 7-9).

The admitted prior art lacks or does not disclose expressly the particular application involving limitation of

“utilizing said VLAN to generate a plurality of virtual connections in an ADSL connection”,

“adding a switching hub in said ATU-R for identifying tagged data in said virtual connections”,

“connecting each subscriber end in said virtual connections to said switching hub via Ethernet”,

“assigning each subscriber I/O port in said switching hub to one of said virtual connections having a distinct tag”, and

“as said data packet sent to said switching chip, commanding said switching chip to send said data packet to said specified subscriber end based on said identification of said data packet on said virtual connection “.

Suzuki et al. teach a method for managing VLANs over a virtual network (ATM or ADSL) (See Fig. 1, Col 4, lines 43-46) comprising of

adding a switching hub (11, 12 and 13 for performing a packet switching) in virtual network node (said ATU-R) for identifying VLAN identifiers (tagged data) in said virtual connections” (See Fig. 1, Col. 4, lines 57-60),

connecting respective nodes (a to e, as subscriber end) in a virtual connections of MAC layer level to the switching hub (11) between its IEEE 802.3 (via Ethernet) ports (1 to 5) (See Fig. 1, Col. 4, lines 47-50),

assigning individual ports (1 to 5) (each subscriber I/O port) in the switching hubs (11, 12 and 13) a VLAN function with individual VLAN identifiers (distinct tag), and

as said data packet sent to said switching hub (11), commanding said switching hub (11) to send said data packet to said specified subscriber end based on said identification of said data packet on said virtual connection (See Fig. 1, Col. 5, lines 10-14).

A person of ordinary skill in the art would have been motivated to employ Suzuki et al. in the admitted prior art in order to obtain a method for servicing subscriber ends to take advantage of adding a switching hub in network node (ATU-R) with the respective ports connected via Ethernet to service VLAN functions to the subscriber end in claim 1.

The suggestion/motivation to do so would have been to add a switching hub (11, 12 and 13) in network node (ATU-R) with the respective ports (1 to 5) connected via Ethernet to service VLAN functions to the subscriber end, as suggested by Suzuki et al. in Col 4, lines 43-65. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Suzuki et al. with the admitted prior art to obtain the inventions specified in claim 1.

The Suzuki et al. and admitted prior art teach substantially all the claimed invention but did not disclose expressly the particular application involving limitation of "utilizing said VLAN to generate a plurality of virtual connections in an ADSL connection",

“as a data packet sent from a central office to said ATU-R in said subscriber end through said ADSL connection, commanding a central processing unit of said ATU-R to identify said received data packet for determining which one of said subscriber ends that an identification of said data packet on said virtual connection belongs to”, and

“adding a corresponding VLAN tag on said data packet based on determination wherein said identification is included in said virtual connection belonging to said subscriber end”.

Voit et al. teach a method for implementing data communication services in a virtual local access network utilizing digital subscriber line technology (See Fig. 1, Col 14, lines 13-22) comprising of

utilizing VLAN to generate a plurality of virtual connections for ATU-R (904) in an ADSL connection (908) (See Fig. 9, Col. 33, line 6-11),

as a data packet sent from a central office (15) to said ATU-R (23) in said subscriber end (25) through said ADSL connection (21), commanding a central processing unit (1110 as CPU) of said ATU-R to identify said received data packet for determining which one of said subscriber ends that an identification of said data packet on said virtual connection belongs to (See Fig. 7 and Fig. 11, Col. 29, Lines 33-42), and

Adding a corresponding VLAN tag on said data packet based on determination wherein said identification is included in said virtual connection belonging to said subscriber end (See Fig. 7, Col. 9, Lines 55-65).

A person of ordinary skill in the art would have been motivated to employ Voit et al. in Suzuki et al. and the admitted prior art in order to obtain a method for servicing

subscriber ends by utilizing VLAN to generate a plurality of virtual connections for ATU-R in an ADSL connection in order to take advantage of utilizing VLAN to generate a plurality of virtual connections for ATU-R in an ADSL connection in claim 1.

The suggestion/motivation to do so would have been to utilize VLAN to generate a plurality of virtual connections for ATU-R (904) in an ADSL connection (908) as suggested by Voit et al. in Col. 33, line 6-11. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Voit et al. with Suzuki et al and the admitted prior art to obtain the inventions specified in claim 1.

Voit et al. in Suzuki et al. and the admitted prior art teach substantially all the claimed invention but did not disclose expressly the particular application involving limitations of integrating switching hub into a single integrated chip (IC).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate switching hub into a single IC for would be merely a matter of obvious engineering choice since it has been held by In re Larson, 340 F.2d 965, 968. 144 USPQ 347,349 (CCPA 1965).

Regarding claim 3, this claim have limitation that is similar to those of claim 1 and Voit et al. further teach that as one of said subscriber ends has sent said data packet to said central office (15) through said ADSL connection (21), commanding said switching chip to perform an identification based on said received data packet for determining which one of said virtual connections that said subscriber I/O port belongs to (See Fig.

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2, col. 3, lines 23-30), thus it is rejected with the same rationale applied against claim 1 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is (571) 272-3129. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RKC

rkc

Richard Chang
Patent Examiner
Art Unit 2663

Ricky Ngo
RICKY NGO
PRIMARY EXAMINER

2/11/05